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EXAMINER

MISLEH, JUSTIN P

| ART UNIT | PAPER NUMBER |
|----------|--------------|
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2612

DATE MAILED: 07/16/2003

10

Please find below and/or attached an Office communication concerning this application or proceeding.

A

Office Action Summary

Application No.

09/306,813

Applicant(s)

KUNO ET AL.

Examiner

Justin P Misleh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 - 3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 30 April 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 30 April 2003 have been fully considered but they are not persuasive.
2. The Examiner accepts the proposed drawing and title changes filed by the Applicant on the same date.
3. The Applicant argues ... *in an exemplary embodiment, the ordinary driving pulses can be easily switched over to a predetermined fixed potential or a floating level via a switching circuit. This change can be made without regard to the signal from the pulse generator. More specifically, this is significantly different than the cited art, which can only reach the alternate levels in response to signals from the pulse generator.*
4. The Examiner acknowledges that the cited art (Maki) teaches the switching over to a predetermined fixed potential in response to signals from the timing pulse generator, which is different from the present invention.
5. However, as presently claimed in amended claim 1, the Applicant claims ... *a switch circuit for alternatively selecting between pulse signals of said timing pulse generator or a predetermined fixed potential or a floating level which are not dependent upon signals from the timing pulse generator.* Amended claim 1, interpreted reasonably broad, merely requires that a switch circuit select between any one of the following: pulse signals of said timing pulse generator, a predetermined fixed potential, or a floating level. The predetermined fixed potential and floating level are not dependent upon signals from the timing pulse generator. Maki clearly

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teaches, as shown in figure 1, a switch circuit (10) for alternatively selecting between pulse signals of a predetermined fixed potential (Vdd). The predetermined fixed potential is not dependent upon signals from the timing pulse generator.

6. As presently claimed in amended claim 2, the Applicant claims ... *in a second mode, selectively changing at least one pulse signal out of the first, the second, the third and the fourth pulse signals to a predetermined fixed potential or a floating level independently from any of the pulse signals*. Amended claim 2, interpreted reasonably broad, merely requires selectively changing at least one pulse signal out of the first, the second, the third, and the fourth pulse signals to a predetermined fixed potential or a floating level. The floating level is selected independently from any of the pulse signals. Maki clearly teaches, as shown in figure 1, in a second mode (by means of switching circuit 10), selectively changing at least one pulse signal out of the first, the second, the third, and the fourth to a predetermined fixed potential (Vdd).

7. As presently claimed in amended claim 3, the Applicant claims ... *in a second mode, driving pulses to be supplied to at least one of said plurality of charge transfer portions are switched over to either a predetermined fixed potential or a floating level independently from signals of the pulse generator*. Amended claim 3, interpreted reasonably broad, merely requires that at least one of the driving pulses are switched over to either a predetermined fixed potential or a floating level. The floating level is switched independently from signals of the pulse generator. Maki clearly teaches, as shown in figure 1, in a second mode (by means of switching circuit 10), at least one of the driving pulses are switched over to either a predetermined fixed potential (Vdd).

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. Claim 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Maki.

10. For claim 1, Maki teaches, as shown in figure 17 and as stated in column 1 (lines 8 – 24), a typical CCD linear sensor (170) comprising a pixel (171) row (172), a read-out gate (173) for reading out the signal charge stored in the pixels, and a charge transfer register (174) with a charge-voltage converter (175) at the end thereof. It is noted that the CCD linear sensor taught in figure 17, uses 4 driving pulses of which 3 are generated by the timing generator circuit (177). Maki discloses, as shown in figure 1, a switching circuit (10) in which a signal generated (reset signal) in timing generator circuit (20) can be switched to a predetermined voltage level (Vdd). Maki shows in figure 2 a block diagram of an application of the above described switch circuit and CCD linear sensor. Therefore, Maki discloses, as shown in figure 2 and as stated in column 5 (lines 36 – 50), a solid state image pickup device (figure 2) being provided with a photoelectric converter portion (30) having a plurality of pixels disposed in a row, a charge transfer portion (31) for transferring the charges generated in said photoelectric converter portion and a charge/voltage converter portion (32) for converting the charges transferred by said charge transfer portion into voltages comprising: a timing pulse generator portion (20) for generating at least more than one pulse signal (ϕ_1 – not shown but inherent (figure 17), ϕ_2 , and ϕ_{rs}) from

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among four pulse signals ($\phi 1$ – not shown but inherent (figure 17), $\phi 2$, OG, and ϕ_{rs}) which are; a first pulse signal for driving said charge transfer portion, a second pulse signal for reading out the charges generated in said photoelectric converter portion, a third pulse signal for sweeping out the charges generated in said photoelectric converter portion, and a fourth pulse signal for discharging the charges transferred to said charge/voltage converter portion, and a switch circuit (10) for alternatively selecting between pulse signals of said pulse timing pulse generator or a predetermined fixed potential (Vdd) or a floating level which are not dependent upon signals from the timing pulse generator.

The switch circuit limitation in claim 1, interpreted reasonably broad, merely requires that a switch circuit select between any one of the following: pulse signals of said timing pulse generator, a predetermined fixed potential, or a floating level. The predetermined fixed potential and floating level are not dependent upon signals from the timing pulse generator. Maki clearly teaches, as shown in figure 1, a switch circuit (10) for alternatively selecting between pulse signals of a predetermined fixed potential (Vdd). The predetermined fixed potential is not dependent upon signals from the timing pulse generator.

11. As for claim 2, Maki teaches, as shown in figure 17 and as stated in column 1 (lines 8 – 24), a typical CCD linear sensor (170) comprising a pixel (171) row (172), a read-out gate (173) for reading out the signal charge stored in the pixels, and a charge transfer register (174) with a charge-voltage converter (175) at the end thereof. It is noted that the CCD linear sensor taught in figure 17, uses 4 driving pulses of which 3 are generated by the timing generator circuit (177). Maki discloses, as shown in figure 1, a switching circuit (10) in which a signal generated (reset signal) in timing generator circuit (20) can be switched to a predetermined voltage level (Vdd).

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Maki shows in figure 2 a block diagram of an application of the above described switch circuit and CCD linear sensor. Therefore, Maki discloses, as shown in figure 2 and as stated in column 5 (lines 36 – 50), a method for driving a solid state image pickup device provided with a photoelectric converter portion (30) having a plurality of pixels disposed in a row, a charge transfer portion (31) for transferring the charges generated in said photoelectric converter portion and a charge/voltage converter portion (32) for converting the charges transferred by said charge transfer portion into voltages, wherein: in a first mode, a first pulse signal for driving said charge transfer portion, a second pulse signal for reading out the charges generated in said photoelectric converter portion, a third pulse signal for sweeping out the charges generated in said photoelectric converter portion, and a fourth pulse signal for discharging the charges transferred to said charge/voltage converter portion are selectively supplied to said solid state image pickup device (ϕ_1 – not shown but inherent, ϕ_2 , OG, and ϕ_{rs}), in a second mode, selectively changing at a at least one pulse signal (ϕ_{rs}) out of the first, the second, the third, and the fourth pulse signals to a predetermined fixed potential (Vdd) or a floating level independently from any of the pulse signals.

The, in a second mode, limitation of claim 2, interpreted reasonably broad, merely requires selectively changing at least one pulse signal out of the first, the second, the third, and the fourth pulse signals to a predetermined fixed potential or a floating level. The floating level is selected independently from any of the pulse signals. Maki clearly teaches, as shown in figure 1, in a second mode (by means of switching circuit 10), selectively changing at least one pulse signal out of the first, the second, the third, and the fourth to a predetermined fixed potential (Vdd).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Maki in view of Kawamoto et al.

14. For claim 3, Maki discloses, as shown in figure 2 and as stated in column 5 (lines 36 – 50), a method for driving a solid state image pickup device provided with a photoelectric converter portion (30) being composed of a plurality of pixels in a row, and a charge transfer portion (31) for transferring the charges generated in the row of pixels in the plurality of photoelectric converter portions, wherein in a first mode, driving pulses ($\phi 1$ – not shown but inherent (figure 17), $\phi 2$, OG, and ϕrs) from a pulse generator are supplied to the charge transfer portion, and in a second mode, driving pulses to be supplied to the charge transfer portion is switched over to either a predetermined fixed potential or a floating level independently from signals of the pulse generator.

The, in a second mode, limitation of claim 3, interpreted reasonably broad, merely requires that at least one of the driving pulses are switched over to either a predetermined fixed potential or a floating level. The floating level is switched independently from signals of the pulse generator. Maki clearly teaches, as shown in figure 1, in a second mode (by means of switching circuit 10), at least one of the driving pulses are switched over to either a predetermined fixed potential (V_{dd}).

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Maki only teaches the invention with one row and does not disclose a plurality of rows. Kawamoto et al. discloses, as shown in figure 1, a plurality of photoelectric conversion portions (31R, 31G, and 31B) and a plurality of charge transfer portions (32R, 32G, and 32B) for transferring the charges generated in respective rows of pixels. At the time the invention was made, one with ordinary skill in the art would have been motivated to include a plurality of rows, as taught by Kawamoto et al., in the solid-state image pickup device of Maki as a means as a means to pickup colors sensitive to the human eye (R, G, B) rather than pickup in monochrome. Therefore, at the time the invention was made, it would have been obvious to one with ordinary skill in the art to include a plurality of rows as shown by Kawamoto et al. in the solid state image pickup device of Maki.

Conclusion

15. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Justin P Misleh whose telephone number is 703.305.8090. The examiner can normally be reached on Monday - Friday, 8 am - 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy R Garber can be reached on 703.305.4929. The fax phone numbers for the organization where this application or proceeding is assigned are 703.872.9314 for regular communications and 703.872.9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is 703.306.0377.

JPM
July 7, 2003


WENDY R. GARBER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600